TinySine

TOSR-10B/C

LazyBone

Smartphone Controlled Switch

User Manual

Tinysine Electronics @ 2014
Version 1.0

INTRODUCTION

LazyBone is smart switch controlled by our phones via Bluetooth or WiFi, supporting both Android and iOS. It's a convenient and easy-to-use product that can be used to control your home's electrical equipment, such as light bulbs. By using the instantaneous mode, you can even control your garage door!

SPECIFICATIONS

- Supply voltage: AC(110~240V)/DC 5V*
- Relay switching power: 10A/250VAC
- Communication mode: Bluetooth/WiFi
- Baud rate: 9600
- Control distance: 25m (outdoor with Bluetooth version)
- Support Android: above V2.3
- Support iPhone: above iPhone4s (Only support V3 Bluetooth)

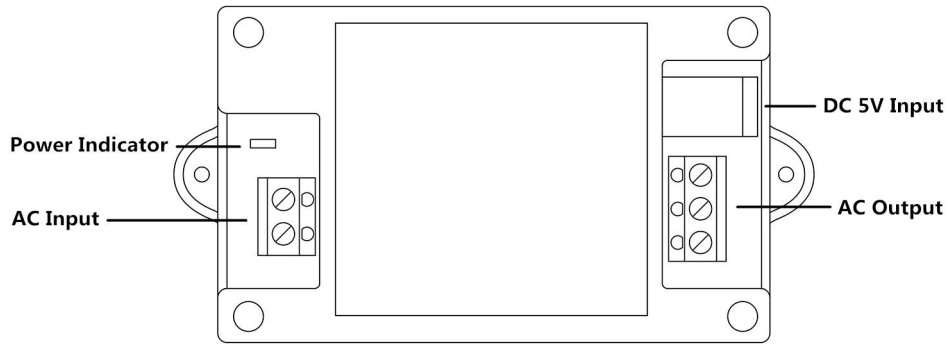
*If you just want to use it as a switch, you can supply the module with DC5V power

IMPORTANT DISCLAIMER

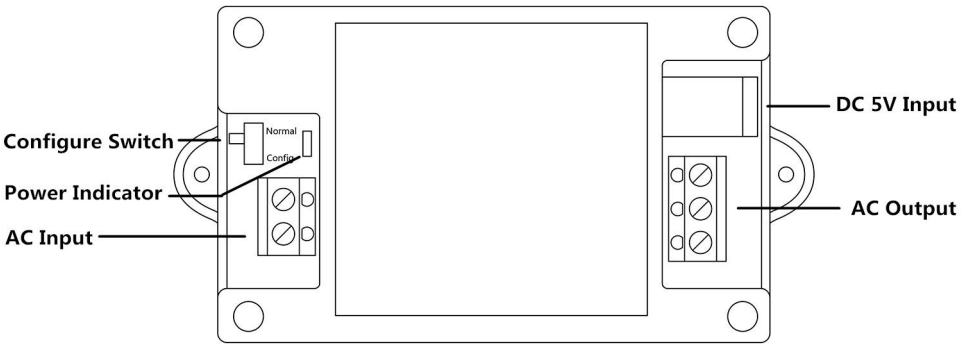
Using this device may require you to connect the civil high AC power (110~240v). Please leave the device uncharged when you are wiring. Additionally, if something wrong has happened with the device and you want to check it, please disconnect the power first. Any incorrect wiring or shorts on the board can potentially cause damage to the controller itself. Extreme care must be taken when using this device to avoid any damage to your equipment. In particular, make sure you always disconnect the device from the DC5V port as well as any other power source when working on the device. Never touch the power input and output ports without protective measures when the device is working.

Tinysine Electronics, its shareholders, employees, suppliers, distributors and/or resellers are not liable for any damage or loss of data as a result of the use of this device, including special, incidental or consequential damages resulting from the use of this device, or under any legal theory, including lost profits, downtime, good will, damage to or replacement of equipment or property, and any costs or recovering or reproducing of data stored on computers connected to this device. Your use of this circuit indicates your acceptance of these terms.

Module Overview



LazyBone (Bluetooth)



LazyBone (WiFi)

Commands

We have provided a very simple command set for developers to develop their own application. The LazyBone operates with an easy to use command set as described in the table below.

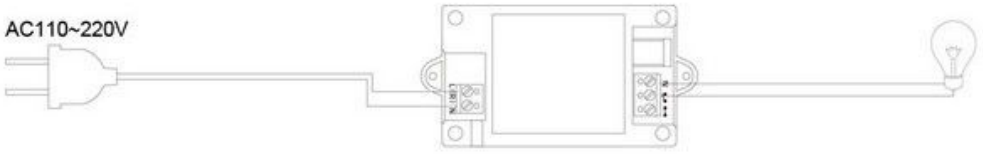
Command			Action
dec	hex	ASCII	
90	5A	Z	Get software version - returns 2 bytes, the first being the Moudle ID which is 15, followed by the software version
91	5B	[	Get relay states - sends a single byte back to the controller ,bit high meaning the corresponding relay is in position 1
99	63	c	Relay Momentary Output - 0x63+pulse time (0x00-0xFF) Example:0x63 0x05, Pulse output 500ms
101	65	e	Relay to position 1
111	6F	o	Relay to position 0

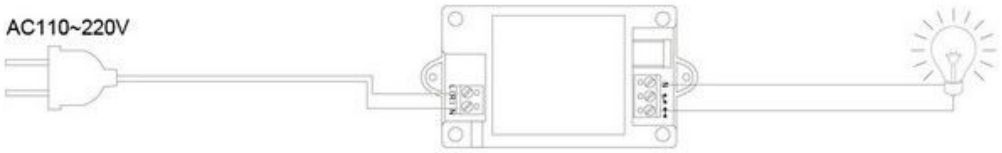
How to Use

Step 1: Power LazyBone

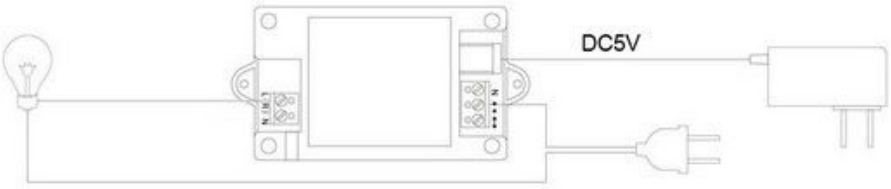
LazyBone has two kinds of working modes:

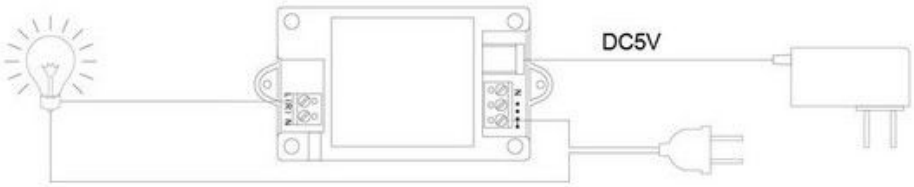
1. ***Self-power mode***





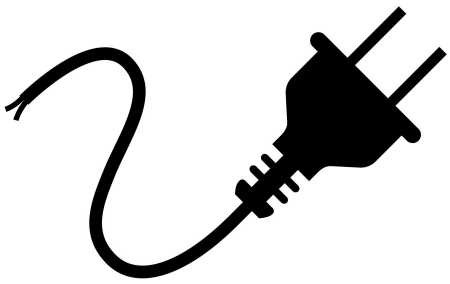
2. Wireless switch mode

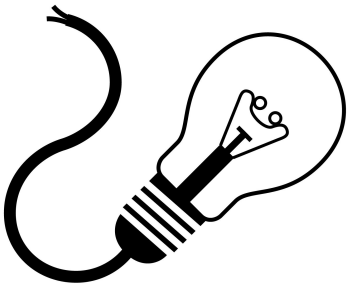




For our guide, we demonstrate using the self-power mode.

First, you will need a wire that has a two-pin plug and a bulb with two polar ends that has been leaded like we have shown below.

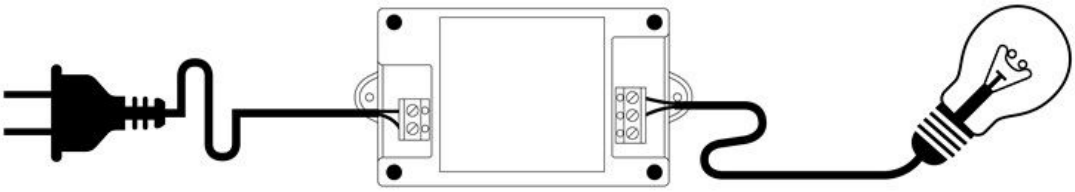




Connect the wire to LazyBone's AC input port: connect the live wire to the AC port named "L" and the zero line to the port named "N".

The output has three ports. The one named "N" is a common port; please wire one polar end of the bulb to this port. The last two ports have an opened switch and closed switch signal respectively; choose the opened switch port keep your bulb off, or choose the closed switch to keep the bulb on. (Please do this with the wire, bulb and LazyBone powered off to keep you safe!)

Finally, connect the 2 pin plug to AC power, and the yellow LED light near the AC input port will light up. This step works for all versions of LazyBone!



Step 2: Connect LazyBone to your Smartphone

LazyBone V3 (Bluetooth dual mode version)

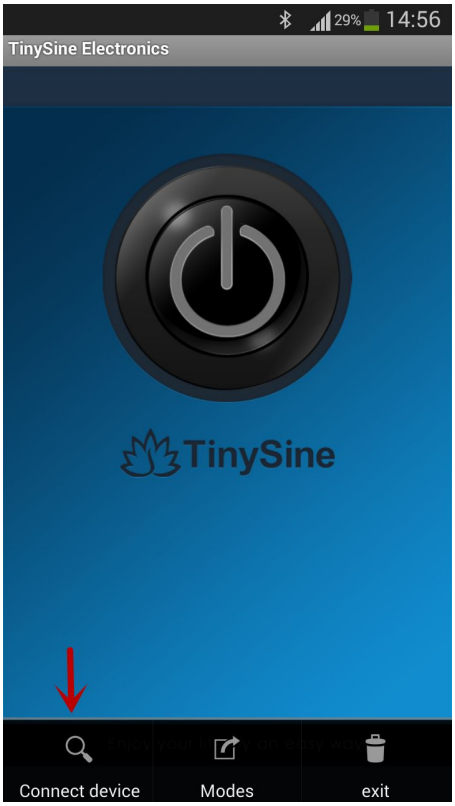
LazyBone V3 uses a dual Bluetooth module instead of a traditional Bluetooth module. This module supports both EDR and BLE, which means that V3 can be controlled by both Android phones and iOS devices!

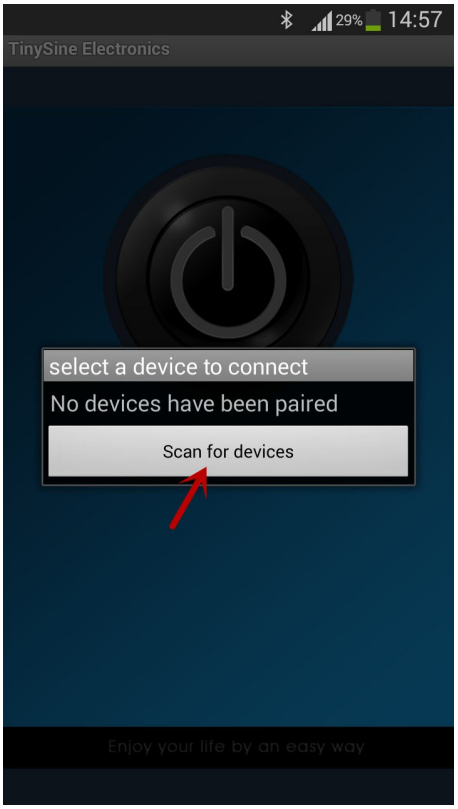
1. Connect with Android Phones

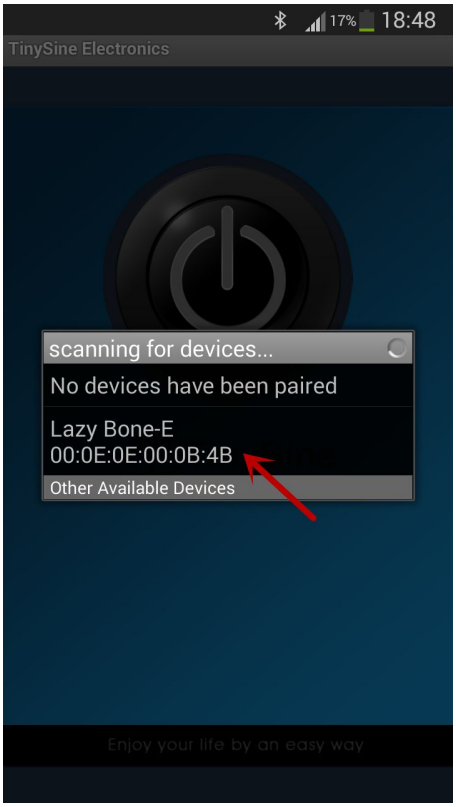
(1) Download the Android Application (Bluetooth Version) here and install it to your android phone.

(2) Open your phone's Bluetooth and the app

(3) Click menu key on your phone → Connect device → Scan for devices. Your phone will search for the Bluetooth module automatically. The Bluetooth module usually comes with a name "**LazyBone-E**".

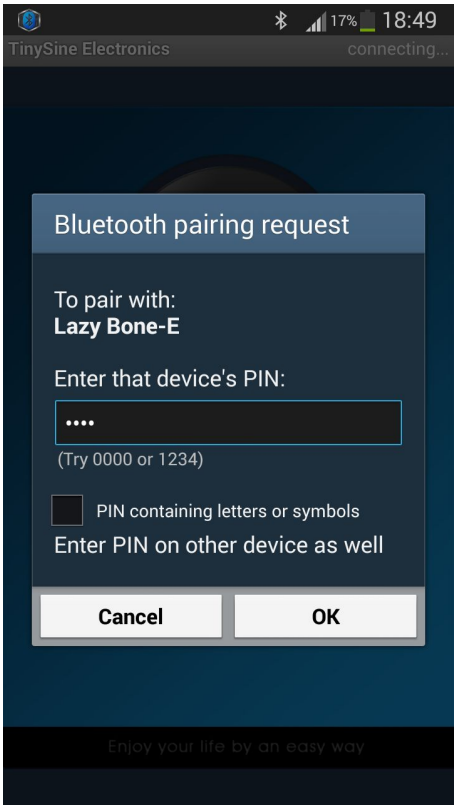



29% 14:57
TinySine Electronics
select a device to connect
No devices have been paired
Scan for devices
Enjoy your life by an easy way



(4) Click the device to connect. You can assign a name for your LazyBone (the default name is **LazyBone-E**).

(5) The default pair code is **1234**. When your phone has connected to LazyBone, the interface will show “connected: LazyBone-E” at the top.

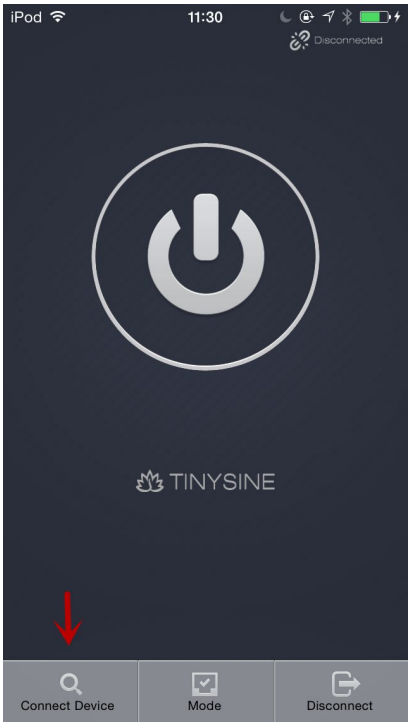


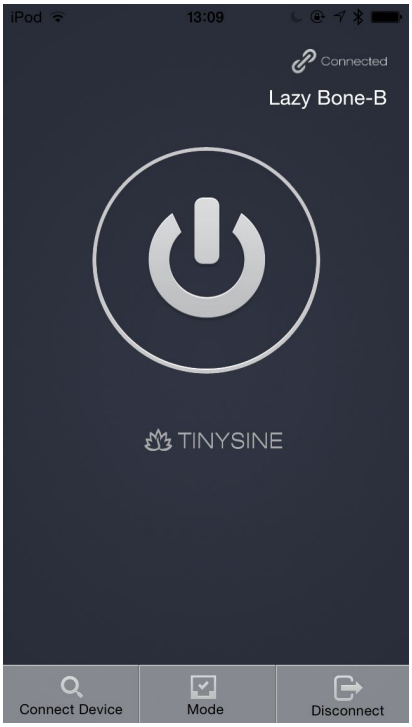
2. Connect with iPhone

(1) Download the iPhone application (Bluetooth Version) here and install it to your iOS devices, like the iPhone, iPad or iPod touch.

(2) Open the app and click “Connect Device.” It will automatically detect nearby BLE devices.

(3) When the app shows a device named “**LazyBone-B**”, choose it to connect. After LazyBone has connected to iPhone, you will see “connected LazyBone-B.” Click the name if you would like to change it.





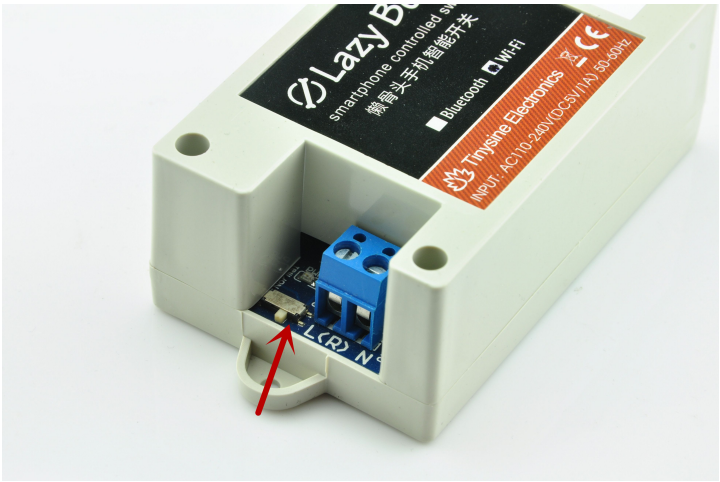
LazyBone V2 (WiFi version)

LazyBone V2 (WiFi version) contains a RN171 module. You will need to configure the WiFi module according to your network before you can use it.

1. There are two methods to configure your LazyBone:

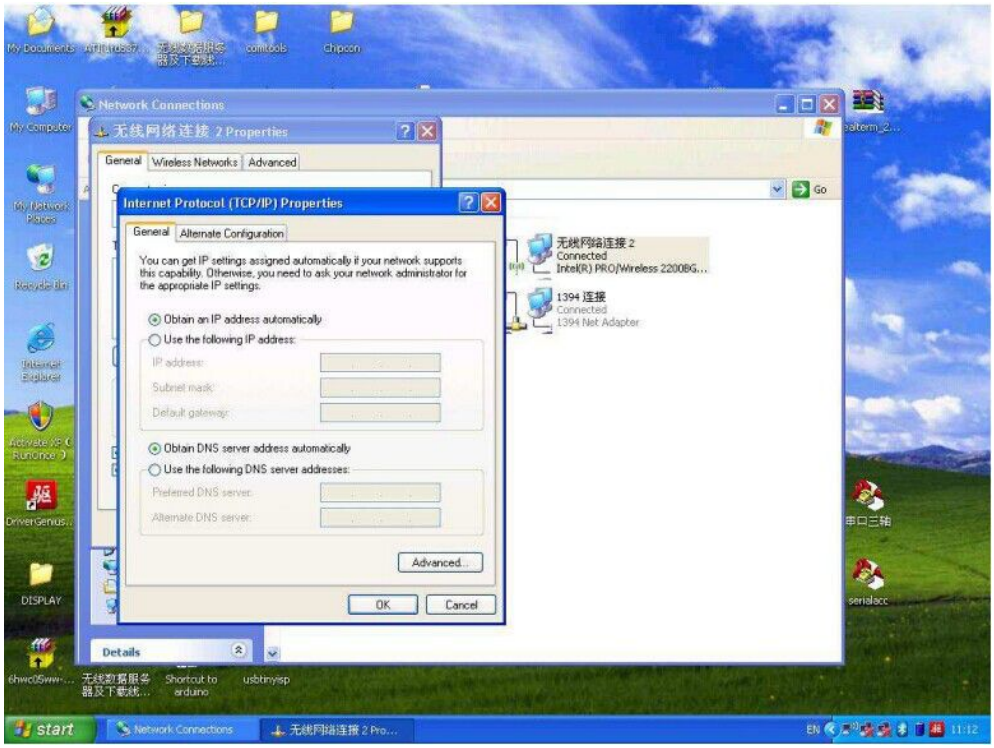
The first method is to use Hyper Terminal in Windows to configure LazyBone:

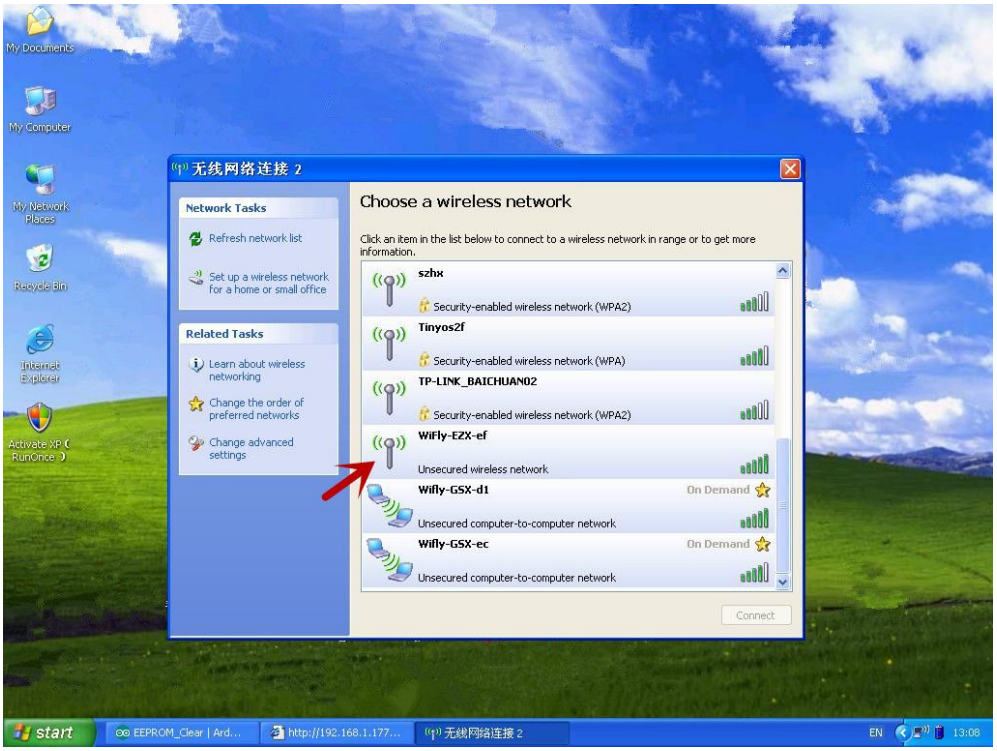
(1) Disconnect LazyBone from AC power, set configuration switch to "**Config**" position, and then power your LazyBone again.



(2) Once LazyBone is powered, it will create an AP network.

(3) Set your computer to obtain IP address automatically and open your network list. You should see a new wireless network named **Wifly-EZX-XX** (AP mode). Click the Wifly-EZX-XX to connect, which is an open network that does not need a pass phrase or pass key. **XX** stands for the last two characters of the WiFi module's MAC address.



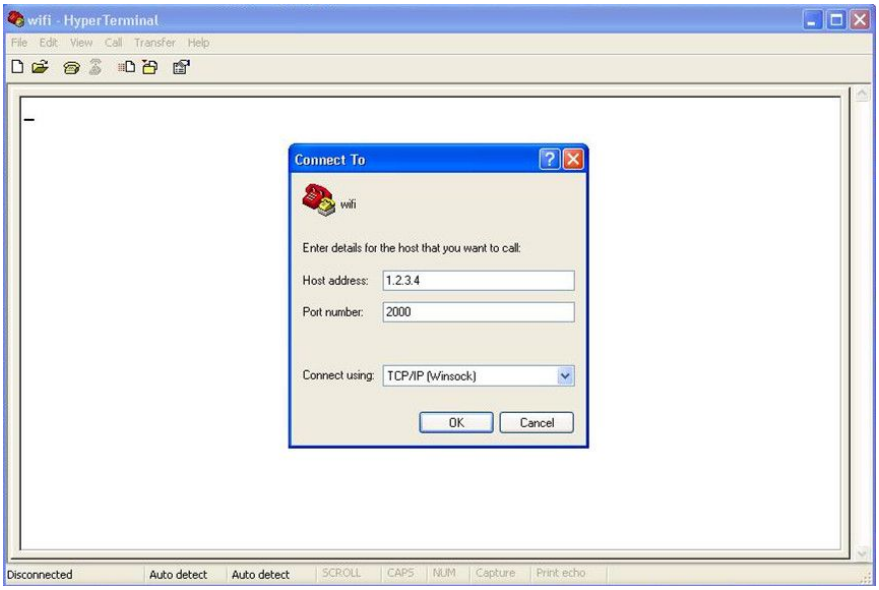


NOTE: It may take a while for Windows to connect to the network and assign an IP address. You can check the IP address of your computer by running the ipconfig command in the command window. Once connected, this command will show you the IP address and net mask.

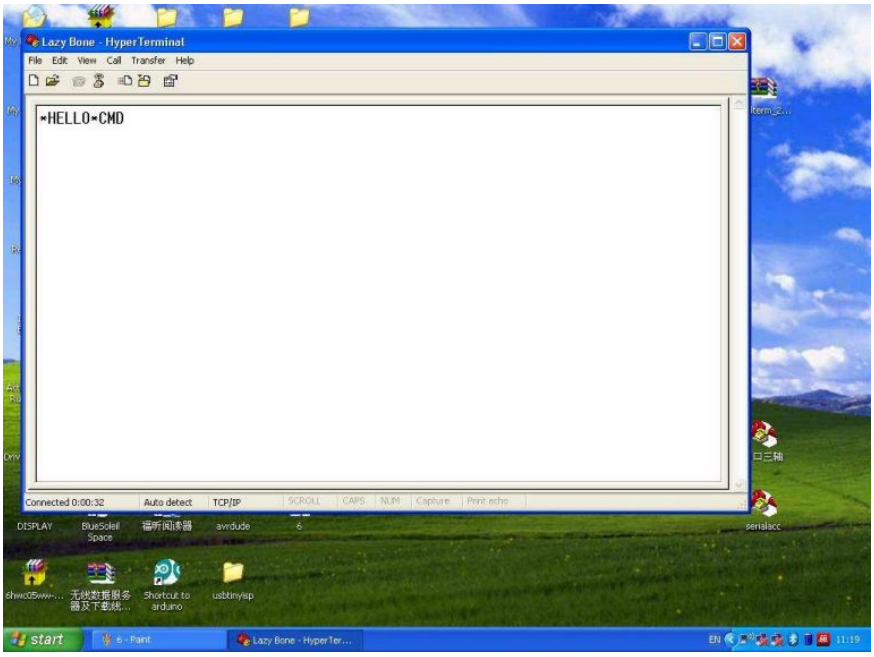
The IP address assigned by Auto IP must be on the subnet 1.2.3.x, otherwise the LazyBone WiFi module will not be accessible.

If your computer has both wireless and wired interface hardware, please disable the wired LAN interface hardware before connecting to the AP network, or the computer may assign an IP address that is not on the same subnet as the WiFi module.

(4) Run Hyper Terminal and create a new connection.
Connect to the LazyBone WiFi module on **port 2000** and **1.2.3.4 2000**



(5) Once connected with a proper IP address, you should see the response ***HELLO***. Input escape sequence **$$$** to make the WiFi module enter commands mode, and Hyper Terminal should return **CMD** to you.



(6)Now you can setup the WiFi module's settings. Input every command on your keyboard, and click the **Enter** button after each command to send. The Hyper Terminal should return

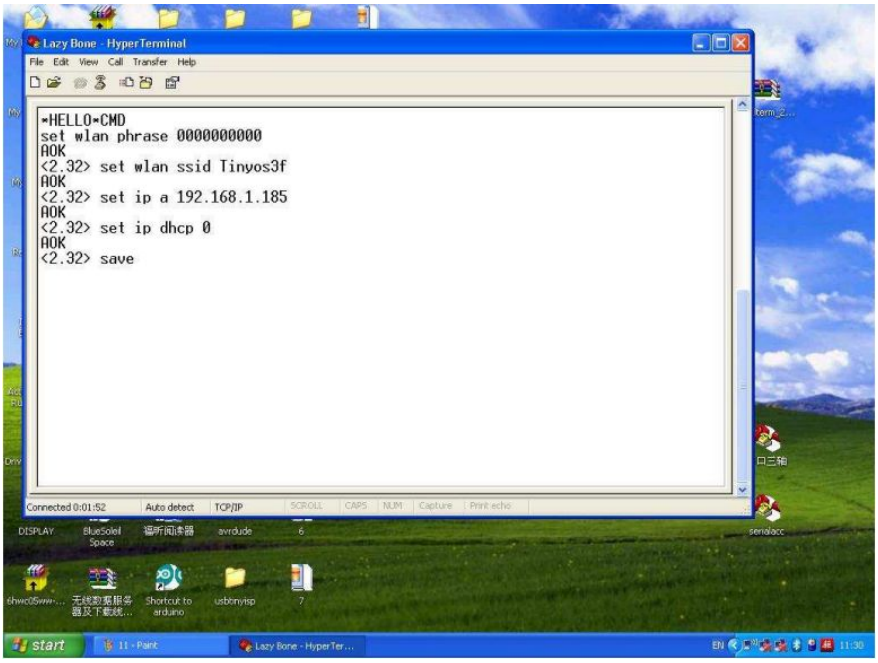
AOK.

set wlan phrase <your WPA password>

set wlan ssid <your network ssid>

set wlan join 1

save



If you want a fixed IP address, please use these commands below:

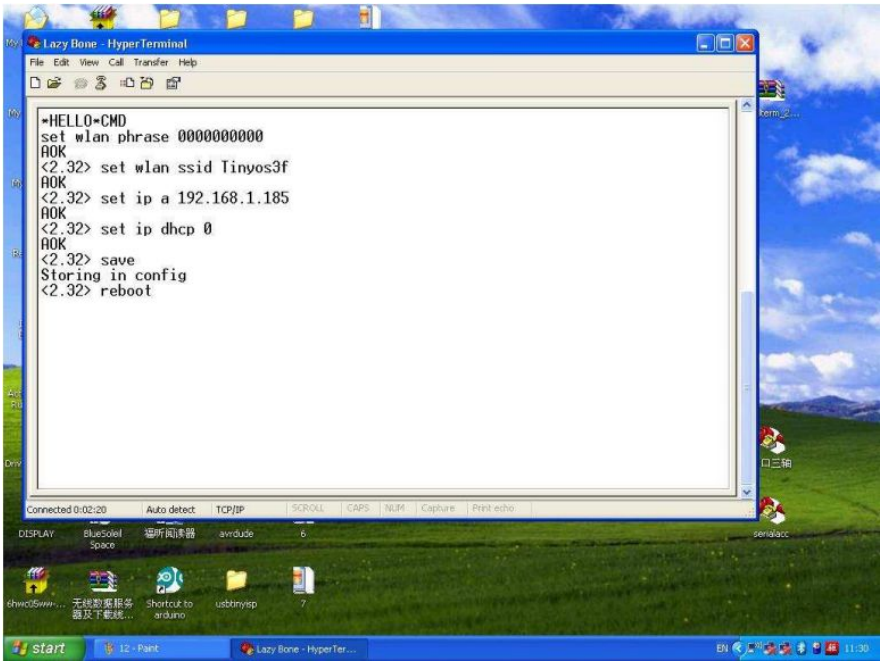
set ip a <your IP address>

set ip dhcp 0

set sys printlvl 0

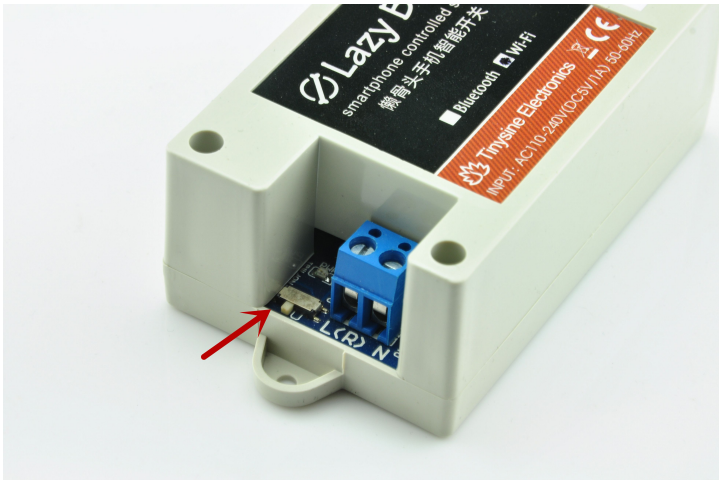
save

reboot



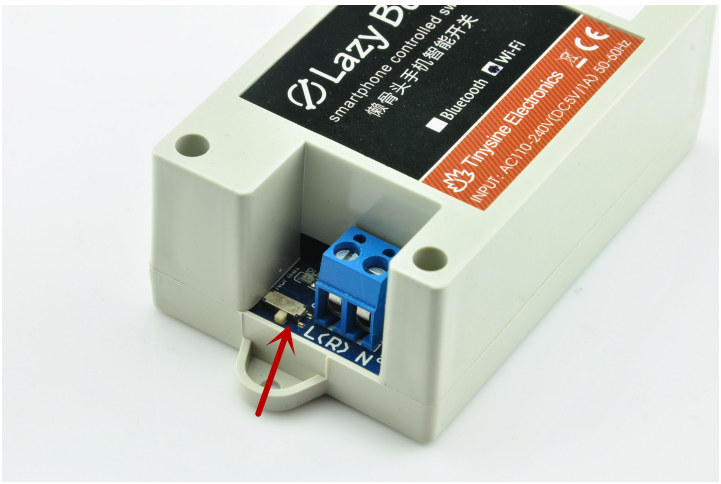
Here we set IP address to 192.168.1.185 for demo purposes.

(7) When the configuration has finished, disconnect LazyBone from its power, change the configuration switch back to the "**Normal**" position, and re-power LazyBone again.

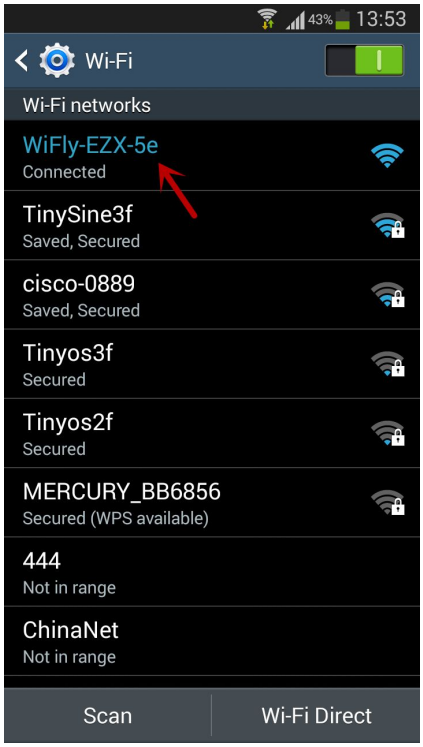


The second method is to use an Android phone. In the Android app (version must be V2 or later), we have added a new feature that allows us to use Android phones to configure LazyBone. The Android app can send commands to the module automatically, so no manual operation is needed. For the moment, the iPhone app does not support this feature.

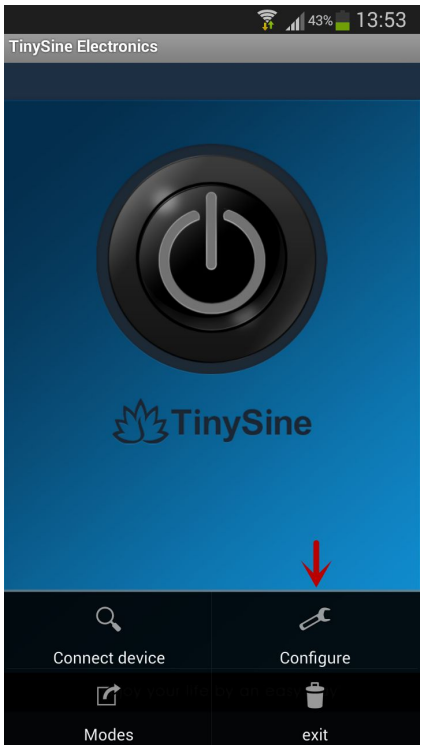
(1) Make sure your LazyBone's configuration switch is in "**Config**" position.



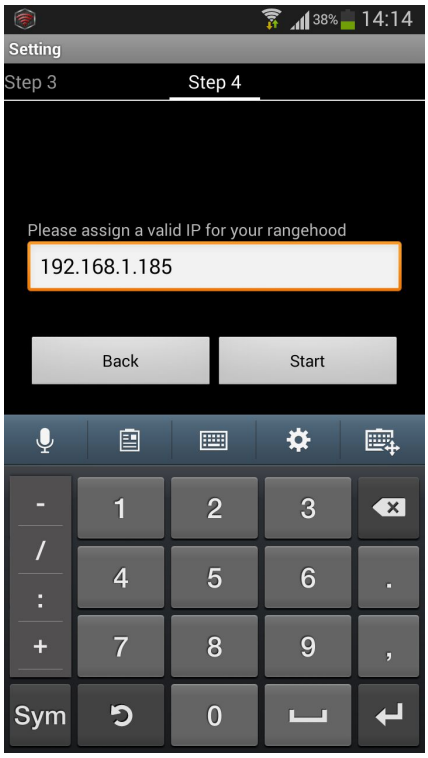
(2) Power LazyBone and open your Android phone's WiFi. Scan for the wireless network until you find a network named **Wifly-EZX-XX**, and click Wifly-EZX-XX to connect.

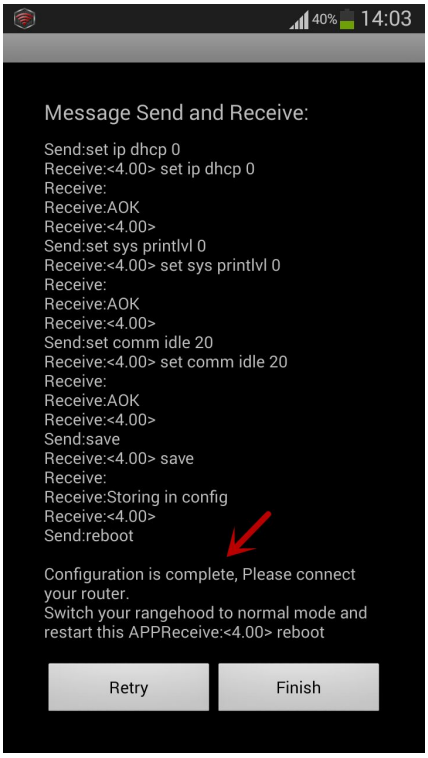


(3) Once connected, open the Android app (must be V2 or later), and click the menu key to choose "**Configure**".

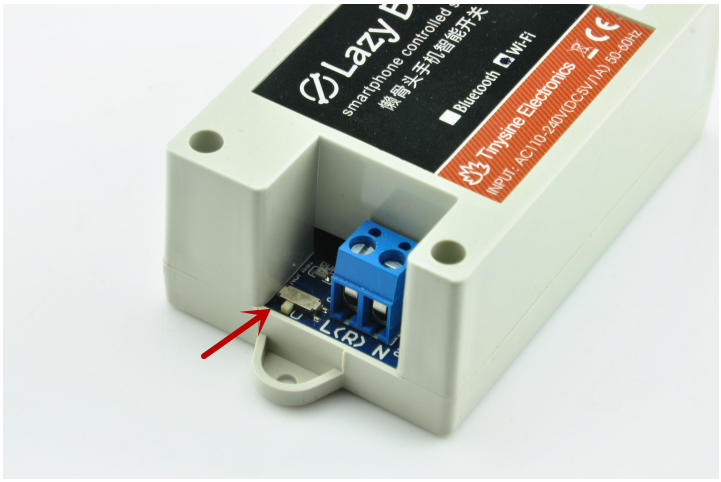


(4) Input your network's settings like SSID, password and IP address in turn, then click "**Start**". The app will send commands to the WiFi module automatically. Click "**Finish**" when the app shows configuration is complete.





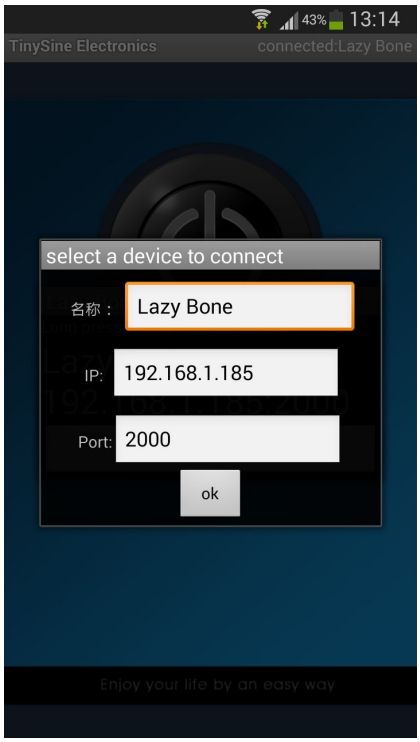
(5) When the configuration has finished, disconnect the AC power and set the configuration switch back to the "**Normal**" position, then re-power your LazyBone.

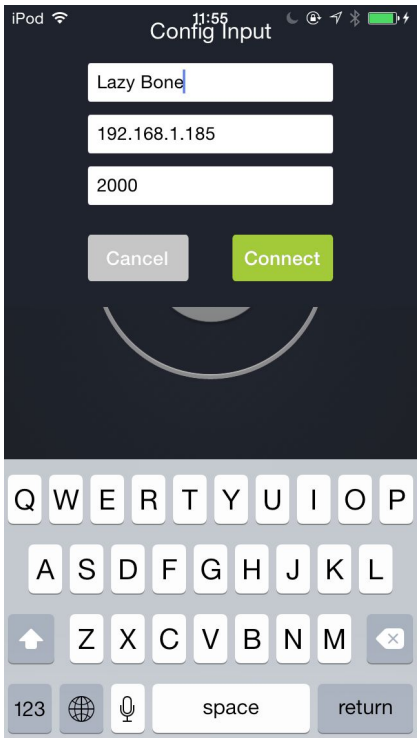


2. Connect LazyBone to Android phone/iPhone

(1) Download the Android application (WiFi Version) or iPhone application (WiFi Version) here and install it to you phone.

(2) Open the app, click **Connect Device** and **Add new devices**. Input the configuration information as we have set before. You can input a name for LazyBone in the first line. The second line is the module's IP address, which in our case we write 192.168.1.185, and the third is the port, which we set to **2000**. Then click **Connect** or **ok**, and your phone will connect to LazyBone.



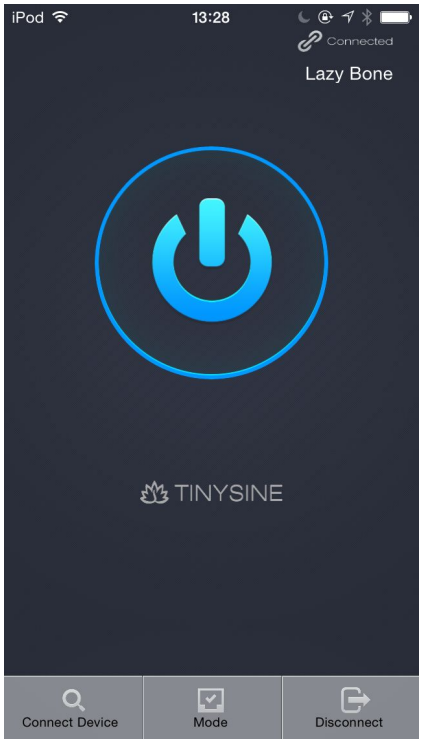


(2)When you see the words "**Connected: LazyBone**", it means that your phone has successfully connected to LazyBone, and you can now use LazyBone to turn your bulb on or off!

Step 3: Control your Bulb

Normal mode

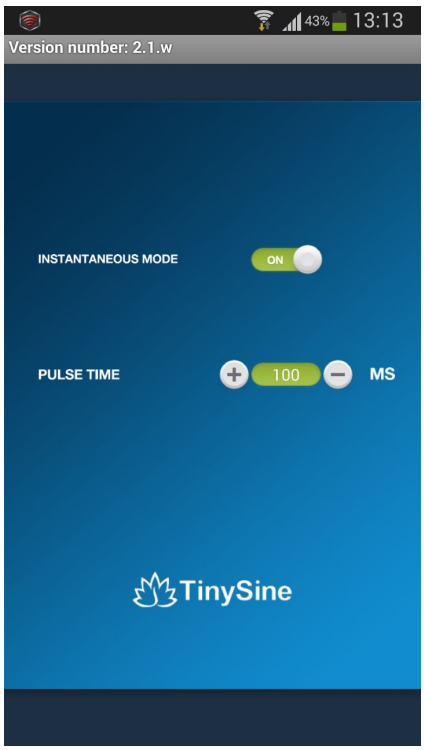
Once your phone has connected to LazyBone, click the button in the middle to activate the bulb, and the button will become blue at the same time. Click it again to deactivate the bulb.

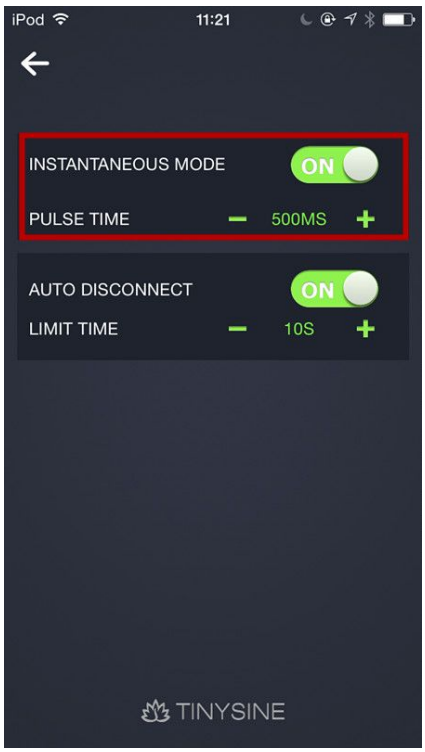


Advanced applications

1. Pulse output (available for both Bluetooth and WiFi version, Android and iPhone)

We have added an instantaneous mode in the latest app, and you can click “Mode” in the menu to open it. This mode allows your LazyBone to output a 100ms~20s pulse. It’s useful when controlling your garage door.



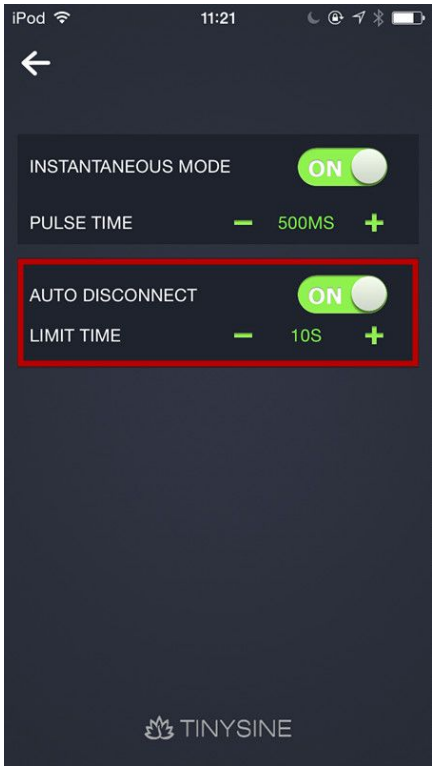


(1) Click the first button to turn on/off the INSTANTANEOUS MODE.

(2) Click ”**+/-**” to increase/decrease the PULSE TIME(100ms~20s)

(3) Now return to the home page and click the button to output a pulse.
Turn on → Wait for a while (this time will depend on how long you set) → Turn off automatically. The process is that easy!

2. Auto Disconnect (temporarily available only for the iPhone)
We have added this function in order to save power. You can reconnect LazyBone at any time quickly and efficiently!



This function can also be turned on or off in the “Mode” option. Click “**+/-**” to change the limit time between 10~300s, with an interval of 10s. For example, if you turn on your bulb and set the auto disconnection time to 10 seconds, then after 10 seconds of inactivity in the app, your iPhone will disconnect with LazyBone automatically, though the bulb remains on. If you want to turn off the bulb, simply reconnect your LazyBone!

3. Control LazyBone (WiFi version) through internet (APP version must be V2R3).
For this feature, please view the **APPENDIX-3**, where we discuss more details.

We’ve now covered how to use LazyBone to control a bulb, and you can also use it to control other electrical equipment or your garage-door. We hope LazyBone can bring convenience and ease to your life. If you have any problems or suggestions, please do let us know!

NOTICE

1. Make sure your wire is strong enough to bear high voltage and that the electrical equipment is certified as reliable and secure.
2. Keep your device uncharged when wiring or checking for problems. Never try to touch the power input and/or output ports when powered, as this can be extremely dangerous! Take extra precaution if you have to examine the power input or output ports.
3. Keep your device working in a dry environment, and never pour liquid on the device. This device doesn't have waterproof performance.
4. Don't open the shell of the device or leave the circuit board exposed when working.
5. Keep your kids or pets away from this device.

APPENDIX

1.GL5A Relay Datasheet
2.RN171 WiFi Module Datasheet
3.Control WiFi LazyBone Through Internet

Contact us

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